Complete Summary

GUIDELINE TITLE

Chlamydial urethritis and cervicitis.

BIBLIOGRAPHIC SOURCE(S)

Finnish Medical Society Duodecim. Chlamydial urethritis and cervicitis. In: EBM Guidelines. Evidence-Based Medicine [CD-ROM]. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2005 Mar 30 [Various].

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Finnish Medical Society Duodecim. Chlamydial urethritis and cervicitis. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2004 Jun 19. Various p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Chlamydial urethritis and cervicitis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Prevention
Screening
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology
Urology

INTENDED USERS

Health Care Providers
Physicians

GUIDELINE OBJECTIVE(S)

Evidence-Based Medicine Guidelines collect, summarize, and update the core clinical knowledge essential in general practice. The guidelines also describe the scientific evidence underlying the given recommendations.

TARGET POPULATION

- Men and women with (or with symptoms suggestive of) chlamydial urethritis or cervicitis (Diagnosis; Treatment; Management; Secondary Prevention)
- Family planning clinic customers and, in general, young women who see their physician to renew their contraceptive pill prescription (Screening)
- Partners of patients diagnosed with chlamydial infections (Screening)

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation/Diagnosis

1. Assessment of clinical symptoms and signs
2. Laboratory diagnostics
    - Gene amplification methods, such as polymerase chain reaction (PCR) and ligase chain reaction (LCR)
    - First-void urine samples or alternatives (e.g., analyses of samples from the urethra, cervix, or cornea of the eye by gene amplification methods)
    - Chlamydial serology for chronic infections
    - Immunoglobulin G (IgG) antibody titres

Treatment/Management

1. Pharmacologic treatment
    - Azithromycin as the treatment of choice for chlamydial infection
    - Other alternatives: tetracycline or doxycycline
    - Combination of antibiotics in pelvic infections
2. Testing of the permanent sexual partner of the index patient before treating partner
3. Post-treatment follow-up and tracing the contacts of the patient

Screening/Prevention

1. Targeted and/or systematic screening for asymptomatic infections
2. Tracing contacts and partner screening

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of diagnostic methods for chlamydial infection
- Microbiological cure rate after treatment
- Treatment efficacy (defined as the number of subjects who completed their course of antibiotics with negative test of cure)
- Complications of chlamydial infection, such as pelvic inflammatory disease and ectopic pregnancy
- Rate of contact referral and rate of partners presenting for medical evaluation
- Rate of mother-to-child transmission of chlamydial infection
- Adverse effects of treatment
- Cost effectiveness of screening interventions

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence reviewed was collected from the Cochrane database of systematic reviews and the Database of Abstracts of Reviews of Effectiveness (DARE). In addition, the Cochrane Library and medical journals were searched specifically for original publications.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A. Strong research-based evidence. Multiple relevant, high-quality scientific studies with homogenic results.
B. Moderate research-based evidence. At least one relevant, high-quality study or multiple adequate studies.
C. Limited research-based evidence. At least one adequate scientific study.
D. No research-based evidence. Expert panel evaluation of other information.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Guideline developers reviewed a cost-benefit analysis of first-void urine in a Chlamydia trachomatis screening programme. Screening for chlamydial infection was found to be cost-effective if the prevalence of chlamydial infection exceeded 3% in the population screened.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The levels of evidence [A-D] supporting the recommendations are defined at the end of the "Major Recommendations" field.

Aims

- To diagnose the disease and treat the patient in time to avoid the serious complications of prolonged or recurrent infection (pelvic inflammatory disease, infertility, ectopic pregnancy)
- To examine and treat the person who is the source of the infection and any other persons who might have been subsequently infected, in order to prevent the spread of the chlamydial infection

Epidemiology

- Young adults with many sexual contacts are especially at risk, and the use of oral contraceptives increases the likelihood of contracting the disease (Hiltunen-Back et al., 2001).
- Asymptomatic infections promote the spread of the disease. The time from infection to diagnosis is on average four weeks but may be up to many months (Hiltunen-Back et al., 2001).
- By the time of diagnosis, a quarter of patients have already had a new sexual relationship, which presents a challenge for tracing the infection (Hiltunen-Back et al., 2001).
- On the basis of extensive material, men are most commonly (60%) infected by a temporary sexual partner and women by a permanent partner (Hiltunen-Back et al., 2001). Prostitutes and foreigners do not constitute a significant source of infection in most countries.

Early Symptoms

- The "incubation period" from chlamydial infection to the emergence of symptoms is one to three weeks (i.e. longer than in gonorrhoea). About a quarter of men and most women experience no particular early symptoms from chlamydial infection, and many of them become asymptomatic carriers of chlamydial disease.
- In men, urethritis is marked by scant, watery (later mucous) discharge from the urethra. Other symptoms include an aching pain and dysuria. In women, there is dysuria, pollakisuria, and mild leucorrhoea. Cervicitis is a relatively common finding. It is manifested as mucopurulent discharge and oedema or bleeding tendency of the orifice of the uterus.

Late Symptoms and Complications

- In women, prolonged chlamydial infection often results in endometritis and salpingitis. These conditions are not always associated with severe symptoms; the patient may have just slight fever or mild lower abdominal pain. Endometritis may also cause irregular uterine bleeding. Pelvic inflammatory disease (PID) is an important late complication of chlamydial infection; it generally requires inpatient treatment. Perihepatitis is a rare complication of chlamydial infection.
- Late complications of extensive and, especially, recurrent chlamydial infection also include tubal damage, which in turn causes infertility and ectopic pregnancies (Scholes et al., 1996; Egger et al., 1998).
- In men, chlamydial infection is an important cause of epididymitis, whereas the etiological significance of chlamydia in prostatitis is considered small.
- Chlamydial infection can trigger the development of reactive arthritis (uroarthritis, Reiter's disease) in both men and women.

Diagnostics

- Clinical symptoms and signs. Chlamydial infection can be suspected but never diagnosed on the basis of symptoms alone. A burning sensation and mucous discharge from the urethra are common symptoms in men after unprotected sexual intercourse with a temporary partner. Although Gram or methylene blue stains of plain smear specimens are usually rich in white blood cells, chlamydia is found to be the cause of the infection in only half the

patients. A reliable diagnosis of chlamydial infection in both men and women can therefore be reached only by appropriate microbiological sampling.

- Gene amplification methods have replaced previous techniques, and first-void urine samples have acquired an established position in chlamydial diagnostics in both men and women.
- Gene amplification methods, such as polymerase chain reaction (PCR) and ligase chain reaction (LCR), are based on multiplication of chlamydial nucleic acids with specific probes. The main assets of the methods are their high sensitivity and the fact that they, unlike culture methods, yield a positive result also when there is no living chlamydia in the sample. Compared with traditional culture methods, gene amplification methods reveal 5 to 7% more cases of chlamydial infection, and false positives are practically nonexistent (Pasternack, Vuorinen, & Miettinen, 1997; Puolakkainen et al., 1998). The price of these tests has come down to an acceptable level. Today chlamydia and gonorrhoea can be analysed on the same sample if required.
- First-void urine samples are used for chlamydial diagnostics in both men and women. Samples are taken when at least five to seven days have passed since the potential time of acquirement of infection. The patient has to refrain from voiding for 2 hours before urine sampling. The sample (10 ml) is sent to a laboratory in the normal way. If needed, the sample may be kept refrigerated for one or two days.
- As an alternative to first-void urine, women may give urethral and cervical swab samples which are then analysed by the same gene amplification methods. Even samples from the cornea of the eye can be examined by gene amplification techniques.
- Gene amplification is a rapid method, with results being available within as little as 24 hours. In practice, large laboratories analyse samples two or three times a week.
- First-void urine samples are well suited for home screening of risk groups or sexual partners (Östergaard et al., 1998).
- Serology. Chlamydial serology may be useful in chronic infections. High immunoglobulin G (IgG) antibody titres are often present in pelvic infections and also in other complications. An isolated positive test indicates that the patient has a history of chlamydial infection.

Treatment of Chlamydial Infection

- Chlamydia trachomatis is sensitive to macrolides and tetracyclines. Clindamycin is also relatively effective against this species, fluoroquinolones less so. The common cephalosporins and penicillin have poor efficacy.
- Azithromycin 1 g as a single dose is the treatment of choice for chlamydial infection, including infection in pregnant patients (Brocklehurst & Rooney, 1998) [B]. Other alternatives are tetracycline 500 mg x 3/day or doxycycline 100 mg x 2/day for 7 to 10 days. Some 10% of patients get mild gastric side effects from azithromycin and tetracyclines. Azithromycin therapy has the benefit of 100% compliance; it is more expensive than the common tetracyclines, however. Controlled studies have shown similar therapeutic outcomes for these drugs, with 95 to 97% of patients being cured.
- Chlamydial infections of the throat, anus, or eyes are treated with azithromycin for three to five days. For mild complications, patients are given tetracycline or doxycycline for two to three weeks, for reactive arthritis triggered by chlamydial infection, even longer. In pelvic infections,

combinations of antibiotics are used, as other bacteria, such as anaerobes, may be involved.
- The permanent sexual partner of the index patient should be tested before any treatment since the partner is not necessarily infected. The suitability of the antibiotic for the partner should also be ascertained, as well as ensuring that the female partner to be treated is not pregnant. Furthermore, the partner may have transmitted the infection to other persons, an issue that can only be clarified by having the partner visit the physician or clinic.

Post-treatment Follow-up and Tracing the Contacts of the Patient

- A follow-up visit should only take place after three to four weeks because the presence of gene traces may produce a false positive result in an earlier retest.
- Every physician treating patients with chlamydial infections is required to trace the sexual contacts of their patients (Mathews et al., 2001) [B]. The physician should enquire the index patient whether the person who is the source of the infection and any persons potentially infected have been tested for chlamydia and received treatment as needed. If desired, the attending physician may delegate the screening of sexual partners to a physician responsible for communicable diseases.

Screening for Asymptomatic Infections

- It has been shown that targeted screening for chlamydial infections is effective in preventing pelvic inflammatory disease (PID) and ectopic pregnancies (Scholes et al., 1996; Egger et al., 1998; Pimenta et al., 2000).
- Screening for chlamydial infection is cost-effective if the prevalence of chlamydia infection exceeds 3% in the population screened (Paavonen et al., 1998). Systematic screening for chlamydial infection has been considered relevant among family planning clinic customers and, in general, those young women who see their physician to renew their contraceptive pill prescription, especially if there is a history of temporary sexual partners.
- Tracing the contacts of the patient is the most effective way of combating the disease. Partner screening normally yields 20 to 30% positive cases. The practice of taking first-void urine samples from the partner at home has increased the number of detected infections by 50% compared with the usual practice of partner notification (Östergaard et al., 1998). Many young people are unaware that chlamydial infection is often asymptomatic, which reduces and delays testing for chlamydia.
- Recent seroepidemiological studies have indicated an association between a history of chlamydial infection and the development of cervical carcinoma (Koskela et al., 2000; Anttila et al., 2001). The exact causal relationship remains to be determined, however. Therefore, no seroepidemiological screening programmes have been undertaken as yet.

Related Evidence

- Patient assistance at facilitating patient referral and provider referral may increase partner notification for sexually transmitted diseases (Oxman et al., 1994; DARE-945071, 1999) [C].

- Provider referral and contract referral are more effective than patient referral among patients in increasing the rate of partners presenting for medical evaluation (Mathews et al., 2001) [B].
- Amoxicillin and erythromycin are equally effective for antenatal chlamydial cervicitis (Turrentine & Newton, 1995; DARE-960039, 1999) [B].

Definitions:

Levels of Evidence

A. Strong research-based evidence. Multiple relevant, high-quality scientific studies with homogenic results.
B. Moderate research-based evidence. At least one relevant, high-quality study or multiple adequate studies.
C. Limited research-based evidence. At least one adequate scientific study.
D. No research-based evidence. Expert panel evaluation of other information.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Concise summaries of scientific evidence attached to the individual guidelines are the unique feature of the Evidence-Based Medicine Guidelines. The evidence summaries allow the clinician to judge how well-founded the treatment recommendations are. The type of supporting evidence is identified and graded for select recommendations (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Identification, diagnosis, and effective treatment of the patient with chlamydial urethritis and cervicitis may help avoid the serious complications of prolonged or recurrent infection (e.g., pelvic inflammatory disease, infertility, ectopic pregnancy) as well as prevent the spread of infection.

POTENTIAL HARMS

- Adverse effects of medications. Some 10% of patients get mild gastric side effects from azithromycin and tetracyclines.
- Harmful effects of partner notification. Partner notification evaluations may result in harmful effects, such as domestic violence.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Jun 5 (revised 2005 Mar 30)

GUIDELINE DEVELOPER(S)

Finnish Medical Society Duodecim - Professional Association

SOURCE(S) OF FUNDING

Finnish Medical Society Duodecim

GUIDELINE COMMITTEE

Editorial Team of EBM Guidelines

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Timo Reunala

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

This guideline is included in a CD-ROM titled "EBM Guidelines. Evidence-Based Medicine" available from Duodecim Medical Publications, Ltd, PO Box 713, 00101 Helsinki, Finland; e-mail: info@ebm-guidelines.com; Web site: www.ebm-guidelines.com.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on December 17, 2002. The information was verified by the guideline developer as of February 7, 2003. This summary was updated by ECRI on September 8, 2004, and June 14, 2005.

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